



Patent
266/165

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Inventor: MADURA, Kiran

Serial No.: 09/918,036

Filed: July 30, 2001

For: Method and Compositions for Rapid
Purification of Proteasomes and
Methods of Use of Components Thereof

Group Art Unit: 1652

Examiner: not yet assigned

SUBMISSION OF SEQUENCE LISTING

Box Sequence
Commissioner for Patents
Washington, D.C. 20231

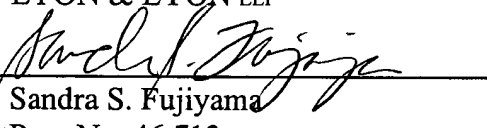
Sir:

Enclosed are a computer readable copy and a paper copy of the Sequence Listing for the above-identified patent application. The contents of both the computer readable and the paper copies are the same and, where applicable, include no new matter, as required by 37 CFR §§ 1.821(e), 1.821(f), 1.821(g), 1.825(b) or 1.825(d).

Respectfully submitted,
LYON & LYON LLP

Dated: 11/5/01

By:


Sandra S. Fujiyama
Reg. No. 46,713



22249

PATENT TRADEMARK OFFICE

LYON & LYON LLP
633 W. Fifth Street, Suite 4700
Los Angeles, CA 90071
Phone: (213) 489-1600
Fax: (213) 955-0440

LA-215684.1

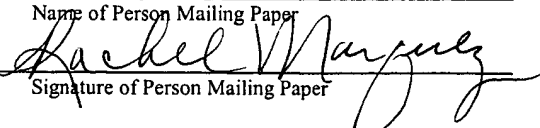
CERTIFICATE OF MAILING
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

November 05, 2001
Date of Deposit

Rachel Marquez

Name of Person Mailing Paper


Signature of Person Mailing Paper



266_165.ST25.txt

SEQUENCE LISTING

#5

<110> MADURA, Kiran
<120> METHODS AND COMPOSITIONS FOR THE RAPID PURIFICATION OF PROTEASOMES
AND METHODS OF USE OF COMPONENTS THEROF
<130> 266/165
<140> US 09/918,036
<141> 2001-07-30
<150> 60/050,171
<151> 1997-06-19
<160> 17
<170> PatentIn version 3.1
<210> 1
<211> 76
<212> PRT
<213> Homo sapiens
<400> 1

Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ile Thr Leu Glu
1 5 10 15

Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp
20 25 30

Lys Glu Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys
35 40 45

Gln Leu Glu Asp Gly Arg Thr Leu Ser Asp Tyr Asn Ile Gln Lys Glu
50 55 60

Ser Thr Leu His Leu Val Leu Arg Leu Arg Gly Gly
65 70 75

<210> 2
<211> 77
<212> PRT
<213> Saccharomyces cerevisiae

<400> 2

Met Ser Leu Asn Ile His Ile Lys Ser Gly Gln Asp Lys Trp Glu Val
 1 5 10 15

Asn Val Ala Pro Glu Ser Thr Val Leu Gln Phe Lys Glu Ala Ile Asn
 20 25 30

Lys Ala Asn Gly Ile Pro Val Ala Asn Gln Arg Leu Ile Tyr Ser Gly
 35 40 45

Lys Ile Leu Lys Asp Asp Gln Thr Val Glu Ser Tyr His Ile Gln Asp
 50 55 60

Gly His Ser Val His Leu Val Lys Ser Gln Pro Lys Pro
 65 70 75

<210> 3
 <211> 77
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 3

Met Val Ser Leu Thr Phe Lys Asn Phe Lys Lys Glu Lys Val Pro Leu
 1 5 10 15

Asp Leu Glu Pro Ser Asn Thr Ile Leu Glu Thr Lys Thr Lys Leu Ala
 20 25 30

Gln Ser Ile Ser Cys Glu Glu Ser Gln Ile Lys Leu Ile Tyr Ser Gly
 35 40 45

Lys Val Leu Gln Asp Ser Lys Thr Val Ser Glu Cys Gly Leu Lys Asp
 50 55 60

Gly Asp Gln Val Val Phe Met Val Ser Gln Lys Lys Ser
 65 70 75

<210> 4
 <211> 79
 <212> PRT
 <213> *Homo sapiens*

<400> 4

Met Gln Val Thr Leu Lys Thr Leu Gln Gln Gln Thr Phe Lys Ile Asp
 1 5 10 15

Ile Asp Pro Glu Glu Thr Val Lys Ala Leu Lys Glu Lys Ile Glu Ser
 20 25 30

Glu Lys Gly Lys Asp Ala Phe Pro Val Ala Gly Gln Lys Leu Ile Tyr
 35 40 45

Ala Gly Lys Ile Leu Asn Asp Asp Thr Ala Leu Lys Glu Tyr Lys Ile
 50 55 60

Asp Glu Lys Asn Phe Val Val Val Met Val Thr Lys Pro Lys Ala
 65 70 75

<210> 5

<211> 81

<212> PRT

<213> Homo sapiens

<400> 5

Met Ala Val Thr Ile Thr Leu Lys Thr Leu Gln Gln Gln Thr Phe Lys
 1 5 10 15

Ile Arg Met Glu Pro Asp Glu Thr Val Lys Val Leu Lys Glu Lys Ile
 20 25 30

Glu Ala Glu Lys Gly Arg Asp Ala Phe Pro Val Ala Gly Gln Lys Leu
 35 40 45

Ile Tyr Ala Gly Lys Ile Leu Ser Asp Asp Val Pro Ile Arg Asp Tyr
 50 55 60

Arg Ile Asp Glu Lys Asn Phe Val Val Val Met Val Thr Lys Thr Lys
 65 70 75 80

Ala

<210> 6
 <211> 83
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 6

Ala Val His Leu Thr Leu Lys Lys Ile Gln Ala Pro Lys Phe Ser Ile
 1 5 10 15

Glu His Asp Phe Ser Pro Ser Asp Thr Ile Leu Gln Ile Lys Gln His
 20 25 30

Leu Ile Ser Glu Glu Lys Ala Ser His Ile Ser Glu Ile Lys Leu Leu
 35 40 45

Leu Lys Gly Lys Val Leu His Asp Asn Leu Phe Leu Ser Asp Leu Lys
 50 55 60

Val Thr Pro Ala Asn Ser Thr Ile Thr Val Met Ile Lys Pro Asn Pro
 65 70 75 80

Thr Ile Ser

<210> 7
 <211> 76
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 7

Met Ile Val Lys Val Lys Thr Leu Thr Gly Lys Glu Ile Ser Val Glu
 1 5 10 15

Leu Lys Glu Ser Asp Leu Val Tyr His Ile Lys Glu Leu Leu Glu Glu
 20 25 30

Lys Glu Gly Ile Pro Pro Ser Gln Gln Arg Leu Ile Phe Gln Gly Lys
 35 40 45

His Ser Asp Asp Lys Leu Thr Val Thr Asp Ala His Leu Val Glu Gly
 50 55 60

Met Gln Leu Lys Leu Val Leu Thr Leu Arg Gly Gly
 65 70 75

<210> 8
 <211> 83
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 8

Glu Glu Ile Ala Ala Phe Arg Ile Phe Arg Lys Lys Ser Thr Ser Asn
 1 5 10 15

Leu Lys Ser Ser His Thr Thr Ser Asn Leu Val Lys Lys Thr Met Phe
 20 25 30

Lys Arg Asp Leu Leu Lys Gln Asp Pro Lys Arg Lys Leu Gln Leu Gln
 35 40 45

Gln Arg Phe Ala Ser Pro Thr Asp Arg Leu Val Ser Pro Cys Ser Leu
 50 55 60

Lys Leu Asn Glu His Lys Val Lys Met Phe Gly Lys Lys Lys Lys Val
 65 70 75 80

Asn Pro Met

<210> 9
 <211> 101
 <212> PRT
 <213> Homo sapiens

<400> 9

Met Ser Asp Gln Glu Ala Lys Pro Ser Thr Glu Asp Leu Gly Asp Lys
 1 5 10 15

Lys Glu Gly Glu Tyr Ile Lys Leu Lys Val Ile Gly Gln Asp Ser Ser
 20 25 30

Glu Ile His Phe Lys Val Lys Met Thr Thr His Leu Lys Lys Leu Lys
 35 40 45

Glu Ser Tyr Cys Gln Arg Gln Gly Val Pro Met Asn Ser Leu Arg Phe
 50 55 60

Leu Phe Glu Gly Gln Arg Ile Ala Asp Asn His Thr Pro Lys Glu Leu
 65 70 75 80

Gly Met Glu Glu Glu Asp Val Ile Glu Val Tyr Gln Glu Gln Thr Gly
 85 90 95

Gly His Ser Thr Val
 100

<210> 10
 <211> 95
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 10

Met Ala Asp Glu Lys Pro Lys Glu Gly Val Lys Thr Glu Asn Asn Asp
 1 5 10 15

His Ile Asn Leu Lys Val Ala Gly Gln Asp Gly Ser Val Val Gln Phe
 20 25 30

Lys Ile Lys Arg His Thr Pro Leu Ser Lys Leu Met Lys Ala Tyr Cys
 35 40 45

Glu Arg Gln Gly Leu Ser Met Arg Gln Ile Arg Phe Arg Phe Asp Gly
 50 55 60

Gln Pro Ile Asn Glu Thr Asp Thr Pro Ala Gln Leu Glu Met Glu Asp
 65 70 75 80

Glu Asp Thr Ile Asp Val Phe Gln Gln Gln Thr Gly Gly Val Tyr
 85 90 95

<210> 11
 <211> 95
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 11

Met Ser Glu Glu Lys Pro Lys Glu Gly Val Lys Thr Glu Asn Asp His
 1 5 10 15

Ile Asn Leu Lys Val Ala Gly Gln Asp Gly Ser Val Val Gln Phe Lys
 20 25 30

Ile Lys Arg His Thr Ser Leu Ser Lys Leu Met Lys Ala Tyr Cys Glu
 35 40 45

Arg Gln Gly Leu Ser Met Arg Gln Ile Arg Phe Arg Phe Asp Gly Gln
 50 55 60

Pro Ile Asn Glu Thr Asp Thr Pro Ala Gln Leu Arg Met Glu Asp Glu
 65 70 75 80

Asp Thr Ile Asp Val Phe Gln Gln Gln Thr Gly Gly Val Pro Glu
 85 90 95

<210> 12
 <211> 100
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 12

Met Ser Asp Ser Glu Val Asn Gln Glu Ala Lys Pro Glu Val Lys Pro
 1 5 10 15

Glu Val Lys Pro Glu Thr His Ile Asn Leu Lys Val Ser Asp Gly Ser
 20 25 30

Ser Glu Ile Phe Phe Lys Ile Lys Lys Thr Thr Pro Leu Arg Arg Leu
 35 40 45

Met Glu Ala Phe Ala Lys Arg Gln Gly Lys Glu Met Asp Ser Leu Arg

50

55

60

Phe Leu Tyr Asp Gly Ile Arg Ile Gln Ala Asp Gln Thr Pro Glu Asp
 65 70 75 80

Leu Asp Met Glu Asp Asn Asp Ile Ile Glu Ala His Arg Glu Gln Ile
 85 90 95

Gly Gly Ala Thr
 100

<210> 13
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide (reverse) primer #42 used to amplify RAD23

<400> 13
 gcgaattcat ggtagctta acc 23

<210> 14
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide (forward) primer #41 used to amplify RAD23

<400> 14
 gcggtaccg tcgcatgat cgctg 25

<210> 15
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide (forward) primer #88 used to amplify RAD23 without
 its UbL domain

<400> 15
 gcgaattcat gacgaagacc aaactaacag aa 32

<210> 16
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide primer specific for the promoter of the GAL4 gene.
 This primer was used to sequence genes from a cDNA library, from
 which RAD23 and other genes were isolated.

<400> 16
 gaagataccc caccaaac

18

<210> 17
 <211> 9
 <212> PRT
 <213> Influenza virus

<400> 17

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
 1 5